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**Park et al.**

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(54) **ATTENUATED TOTAL REFLECTION  
SPECTROSCOPIC ANALYSIS APPARATUS  
HAVING DEVICE FOR MEASURING  
SPECIMEN CONTACT AREA AND METHOD  
OF OPERATING THE SAME**

USPC ..... 356/445  
See application file for complete search history.

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CPC .. **G01N 21/552**; **A61B 5/1455**; **A61B 5/6843**;  
**A61B 2562/0238**; **G01B 11/285**

(57) **ABSTRACT**

An attenuated total reflection (ATR) spectroscopic analysis apparatus includes an ATR prism including: an upper surface that contacts a specimen, a lower surface facing the upper surface, a first surface that is slanted and connected to the upper surface and the lower surface, and a second surface that is slanted and connected to the upper surface and the lower surface and facing the first surface; a light source configured to emit a light towards the first surface of the ATR prism; a light receiver that is provided to face the lower surface of the ATR prism and configured to receive the light that is diffusely reflected and output from the lower surface and output an electrical signal based on the received light; and a computation processor configured to calculate a contact area of the specimen with the upper surface of the ATR prism in response to the electrical signal.

**20 Claims, 7 Drawing Sheets**

